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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,396	01/31/2001	Jagtar Singh Saroya	KLR 7146.084	4249

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EXAMINER

AMARI, ALESSANDRO V

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/773,396

Applicant(s)

SAROYA, JAGTAR SINGH

Examiner

Alessandro V. Amari

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2872

DETAILED ACTION

Claim Objections

1. Claims 32-34 are objected to because of the following informalities:

In regard to claim 32, lines 3 and 5, the phrase, "said frame" lacks antecedent basis. Appropriate correction is required. Claims 33 and 34 inherit the same issue due to their dependence on claim 32.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizoguchi US Patent 6,621,578 in view of Plummer US Patent 4,416,514.

In regard to claim 32, Mizoguchi teaches (see Figure 4) a mounting for a wave plate comprising an enclosure (214) adapted to support said wave plate for rotation as described in column 9, lines 29-51.

Regarding claim 34, Mizoguchi teaches a retaining mechanism to selectively inhibit the rotational movement of said frame as described in column 9, lines 49-51.

In regard to claims 35 and 36, Mizoguchi does teach (see Figure 4) (a) a frame (212) adapted to retain said wave plate; (b) a supporting structure (214) adapted to support said frame for rotation as described in column 9, lines 42-51 and that said

support structure is adapted to support said wave plate for rotation exceeding 90 degrees as described in column 9, lines 15-29.

However, in regard to claim 32, Mizoguchi does not teach (b) a bendable member having a first end affixed to said frame; (c) a substantial length of said bendable member proximate to a periphery of said frame; and (d) said bendable member having a second end and in regard to claim 33, Mizoguchi does not teach rotating said wave plate by moving said bendable member. Furthermore, in regard to claim 35, Mizoguchi does not teach (c) a bendable member having a first end affixed to the wave plate; (d) a substantial length of said bendable member proximate to a periphery of said wave plate; (e) said bendable member having a second end.

In regard to claims 32, 35 and 36, Plummer teaches (see Figure 7) a mounting for a wave plate comprising (b) a bendable member (92, 94, 96) having a first end affixed to said frame; (c) a substantial length of said bendable member proximate to a periphery of said frame as shown in Figure 7; and (d) said bendable member having a second end as shown in Figure 7 and as described in column 8, lines 1-31.

Regarding claim 33, Plummer teaches further rotating said wave plate by moving said bendable member as described in column 8, lines 1-31.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the bendable member (e.g., handle) as taught by Plummer for the wave plate of Mizoguchi in order to more easily manipulate the wave plate. The handle will make it easier to turn the wave plate in the supporting structure in order to set it at the proper polarization angle.

Art Unit: 2872

However, in regard to claim 35, Plummer in view of Mizoguchi while the teaching the invention as set forth above does not teach that said support structure is adapted to support said wave plate for rotation exceeding 180 degrees.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to rotate the wave plate over the claimed range since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. One would have been motivated to adjust the wave plate of Mizoguchi in view of Plummer for the purpose of adjusting the polarization angle for optimal transmission of light. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235.

4. Claims 37-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robrish et al US Patent 6,243,065 in view of Mizoguchi US Patent 6,621,578.

In regard to claim 37, Robrish et al teaches (see Figures 2A, 3A and 5) a projection system comprising: (a) a beam splitter (119); (b) an imaging device (25); (c) a light source (115); (d) a projection element (23) wherein light from said light source passes along an optical path through said beam splitter and is imaged by said imaging device prior to passing through said projection element; and (e) a wave plate (25) supported within said optical path as described in column 16, lines 30-61.

However, in regard to claim 37, Robrish et al does not teach that the wave plate is rotatable exceeding 90 degrees. Regarding claim 38 Robrish et al does not teach an enclosure is adapted to support said wave plate for rotation exceeding one-half revolution. Further in regard to claim 39, Robrish et al does not teach that said wave

Art Unit: 2872

plate is supported for rotation substantially about a normal to an intersection of a fast and a slow axis of said wave plate or in regard to claim 40, that said wave plate rotates with respect to said enclosure or in regard to claim 41, that said enclosure remains stationary. Furthermore, regarding claim 42, Robrish et al does not teach that the system further comprises a frame retaining said wave plate; and that said frame rotatable with respect to an enclosure supporting said frame.

In regard to claim 37, Mizoguchi does teach (see Figure 4) that the wave plate is rotatable exceeding 90 degrees as described in column 9, lines 15-29.

Regarding claim 38, Mizoguchi does teach (see Figure 4) an enclosure (214) is adapted to support said wave plate for rotation exceeding one-half revolution as described in column 9, lines 15-51.

Regarding claim 39, Mizoguchi does teach that said wave plate is supported for rotation substantially about a normal to an intersection of a fast and a slow axis of said wave plate as described in column 9, lines 15-51.

Regarding claim 40, Mizoguchi does teach that said wave plate rotates with respect to said enclosure as described in column 9, lines 29-51.

Regarding claim 41, Mizoguchi does teach that said enclosure remains stationary as described in column 9, lines 42-51.

Regarding claim 42, Mizoguchi does teach (see Figure 4) a frame (212) retaining said wave plate and said frame rotatable with respect to an enclosure supporting said frame as described in column 9, lines 29-51.

Art Unit: 2872

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the manually rotatable wave plate of Mizoguchi in the system of Robrish et al (which uses an electro-mechanically rotated wave plate) in order to not rely on electro-mechanical means, which can fail.

5. Claims 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robrish et al US Patent 6,243,065 in view of Mizoguchi US Patent 6,621,578 and further in view of Plummer US Patent 4,416,514.

Regarding claims 43 and 44, Robrish et al in view of Mizoguchi teaches the invention as set forth above and in regard to claim 45, Mizoguchi teaches a retaining mechanism to selectively inhibit the rotational movement of said frame as described in column 9, lines 49-51.

However, in regard to claim 43, Robrish et al in view of Mizoguchi does not teach a bendable member having a first end affixed to said frame; a substantial length of said bendable member proximate to a periphery of said frame; and said bendable member having a second end. Further, regarding claim 44, Robrish et al in view of Mizoguchi does not teach rotating said wave plate by moving said bendable member.

Regarding claim 43, Plummer does teach (see Figure 7) (a) a bendable member (92, 94, 96) having a first end affixed to said frame; (b) a substantial length of said bendable member proximate to a periphery of said frame as shown in Figure 7; and (c) said bendable member having a second end as shown in Figure 7.

Regarding claim 44, Plummer does teach rotating said wave plate by moving said bendable member as described in column 8, lines 1-31.

Art Unit: 2872

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the bendable member (e.g., handle) as taught by Plummer in the projection system of Robrish et al in view of Mizoguchi in order to more easily manipulate the wave plate. The handle will make it easier to turn the wave plate in the supporting structure in order to set the proper polarization angle.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cotterman US Statutory Invention Registration H76 teaches a mounting for a wave plate as shown in Figures 1 and 2 and as described in column 7, lines 15-56.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2872

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (703) 306-0533. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (703) 305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

ava *ava*
03 December 2003


MARK A. ROBINSON
PRIMARY EXAMINER